1. An intermediate network device for use in forwarding messages in a computer network, the device having a plurality of ports for connecting the device to one or more network components, at least one port configured such that messages forwarded for transmission from the at least one port are also looped-back to the device, the intermediate network device comprising:

an enhanced spanning tree entity configured to formulate at least one configuration bridge protocol data unit (BPDU) message for transmission from one or more ports, the enhanced spanning tree entity further configured to examine the contents of one or more BPDU messages received at the ports;

a spanning tree memory coupled to the enhanced spanning tree entity for storing a loop-back detection data structure comprising one or more BPDU data elements from the at least one transmitted BPDU message; and

a comparator for comparing BPDU data elements of the loop-back detection data structure with corresponding fields of the one or more received BPDU messages; and

a spanning tree state machine engine for placing a first port in a blocking state, in response to a determination that one or more BPDU messages received at the first port is the same as the corresponding loop-back detection data structure.

2. The intermediate network device of claim 1 wherein each BPDU message includes a plurality of fields each containing information and the comparator compares the contents of two or more fields from the received BPDU messages with corresponding loop-back detection data structure.

3. The intermediate network device of claim 2 wherein each BPDU message includes a bridge identifier field and a port identifier field and the loop-back detection data structure includes bridge identifier and port identifier BPDU data elements and the comparator compares the contents of at least the bridge identifier field and the port identifier field from received BPDU messages with the corresponding data elements of the loop-back detection data structure.

4. In an intermediate network device having a plurality of ports for connection to one or more network components, a method for preventing loops at one or more loop-back ports, the method comprising the steps of:

forwarding one or more first configuration bridge protocol data unit (BPDU) messages from one or more ports;

receiving one or more second BPDU messages at one or more ports;

determining whether the first BPDU message is the same as the second BPDU message; and

if so, placing the first port in a blocking state.

comparing the ~~two~~ BPDUs after receiving the MSG. C

5. The method of claim 4 wherein each BPDU message includes a plurality of fields each containing information and the step of determining comprises the step of comparing the contents of two or more fields from the second BPDU message with respective BPDU data elements of a corresponding loop-back detection data structure derived from the forwarded BPDU message.

6. The method of claim 5 wherein each BPDU message includes a bridge identifier field and a port identifier field and the step of determining compares the contents of at least the bridge identifier field and the port identifier field from the received BPDU message with the respective BPDU data elements of the corresponding loop-back detection data structure.

7. The method of claim 6 further comprising the step of periodically forwarding a BPDU message from the first port.

8. The method of claim 4 further comprising the step of:

generating a loop-back detection data structure for each port on which at least one BPDU message is forwarded, the loop-back detection data structure having a plurality of BPDU data elements derived from the at least one forwarded BPDU message,

and wherein the stop of determining comprises the step of comparing the second BPDU message with the corresponding loop-back detection data structure.

9. In an intermediate network device having a plurality of ports for connection to one or more network components, a method for rapidly transitioning one or more ports to a forwarding state, the method comprising the steps of:

configuring one or more ports as access ports;

configuring one or more access ports as rapid forwarding ports;

identifying all ports that have been configured as access ports with rapid forwarding; and

upon initialization of the device, placing each identified access port with rapid forwarding directly to a forwarding state, without transitioning such identified ports between any blocking, listening or learning states, so that messages may be forwarded to and from such identified ports immediately.

10. The method of claim 9 further comprising the steps of:

monitoring the one or more access ports with rapid forwarding for receipt of a configuration bridge protocol data unit (BPDU) message; and

in response to receiving a BPDU message at an access port with rapid forwarding, placing the respective access port in a blocking state.

11. An intermediate network device for use in forwarding messages in a computer network, the device having a plurality of ports for connecting the device to one or more network components, the device comprising:

a port configuration entity that maintains configuration data for one or more of the ports;

an enhanced spanning tree entity in communicating relation with the port configuration entity for receiving the configuration data; and;

a state machine engine configured to transition one or more ports among one of blocking, listening, learning and forwarding states,

wherein the port configuration entity identifies a first port as an access port with rapid forwarding and the enhanced spanning tree entity, in response to initialization of the device, directs the state machine engine to transition the first port directly to the forwarding state without transitioning the first port through the blocking, listening or learning states.

12. The intermediate network device of claim 11 wherein the enhanced spanning tree entity, in response to the receipt of a BPDU message at the first port, is configured to direct the state machine engine to transition the first port among the blocking, listening, learning and forwarding states.

13. The method of claim 4, wherein BPDU information for each port is stored and subsequently discarded upon expiration of a maximum age threshold, the method further comprising the steps of:

in response to receiving a BPDU message at a given port, determining whether the received BPDU is outside of an expected rate of receipt of BPDU messages at the given port; and

if so, increasing the maximum age threshold associated with the given port.

14. The method of claim 13 wherein each BPDU message includes a message age field and the step of determining comprises the steps of (1) subtracting the message

age of the received BPDU message as stored in the respective message age field from the message age of the stored BPDU message and (2) concluding whether this result exceeds a pre-defined rate of transmission of BPDU messages.

15. The method of claim 4, wherein a best BPDU message is stored for each port, the best BPDU message comprising a lowest root identifier and a lowest root path cost known by the intermediate network device, a device identifier corresponding to the intermediate device and a port identifier corresponding to the port for which the respective BPDU message is being stored, the method further comprising the steps of:

comparing the root identifier and root path cost of a BPDU message received at a given port with the corresponding best BPDU information stored for the given port;

refraining from recalculating port states if the root identifier and root path cost from the received BPDU message are identical to the best root identifier and best root path cost known by the intermediate network device for the given port.

16. The method of claim 9, wherein configuration bridge protocol unit (BPDU) message information for each port is stored and subsequently discarded upon expiration of a maximum age threshold, the method further comprising the steps of:

in response to receiving a BPDU message at a given port, determining whether the received BPDU is outside of an expected rate of receipt of BPDU messages at the given port; and

if so, increasing the maximum age threshold associated with the given port.

17. The method of claim 16 wherein each BPDU message includes a message age field and the step of determining comprises the steps of (1) subtracting the message age of the received BPDU message as stored in the respective message age field from the message age of the stored BPDU message and (2) concluding whether this result exceeds a pre-defined rate of transmission of BPDU messages.

18. The method of claim 9, wherein a best configuration bridge protocol data unit (BPDU) message is stored for each port, the best BPDU message comprising a lowest root identifier and a lowest root path cost known by the intermediate network device, a device identifier corresponding to the intermediate device and a port identifier corresponding to the port for which the respective BPDU message is being stored, the method further comprising the steps of:

comparing the root identifier and root path cost of a BPDU message received at a given port with the corresponding best BPDU information stored for the given port;

refraining from recalculating port states if the root identifier and root path cost from the received BPDU message are identical to the best root identifier and best root path cost known by the intermediate network device for the given port.

19. The method of claim 18 wherein the best BPDU message and the received BPDU message each include a bridge identifier and port identifier and further wherein the step of comparing includes comparing the bridge identifier and the port identifier of the received BPDU message with the corresponding information from the best BPDU

message and the step of refraining is performed provided the compared bridge identifiers and port identifiers are identical.